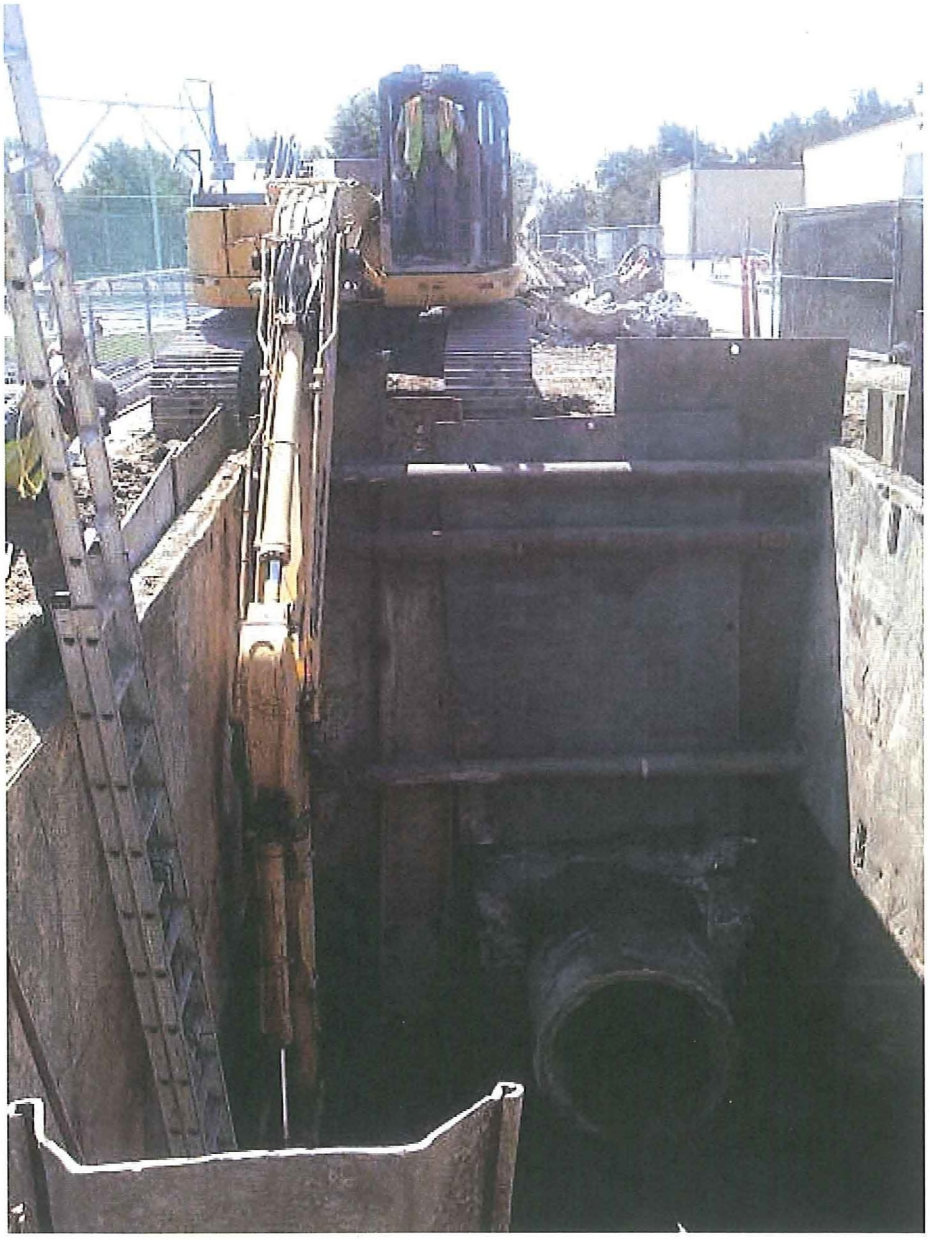
Attachment A

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

STORM SEWER SYSTEM REPORT 2011-2012



NOVEMBER 2012

City of San José
2011-2012 Storm Sewer System Annual Report

CONTENTS

EXECUTIVE SUMMARY

This Storm Sewer Report summarizes the various capital investments and asset management activities associated with the storm sewer collection system for Fiscal Year 2011-2012. The primary focus of these activities includes:

- Capital improvements to address neighborhood ponding issues.
- Capitalized maintenance projects to address aging pump stations.
- Storm Sewer Master planning to assess existing and future storm sewer capacity deficiencies and improve water quality.
- Collaboration with the Environmental Services Department to reduce trash loads entering the City's creeks and rivers.
- Collaboration with the Santa Clara Valley Water District to address deficient storm sewer outfalls.

I. BACKGROUND INFORMATION

The City of San José drains to two main watershed/drainage basin areas – Coyote Creek and the Guadalupe River. Within the tributary areas to these watersheds, the majority of the City's storm sewer collection system benefits from the generally uniform topography of the Santa Clara Valley, allowing the majority of the water to be conveyed to the waterways using gravity lines with minimal use of pump stations.

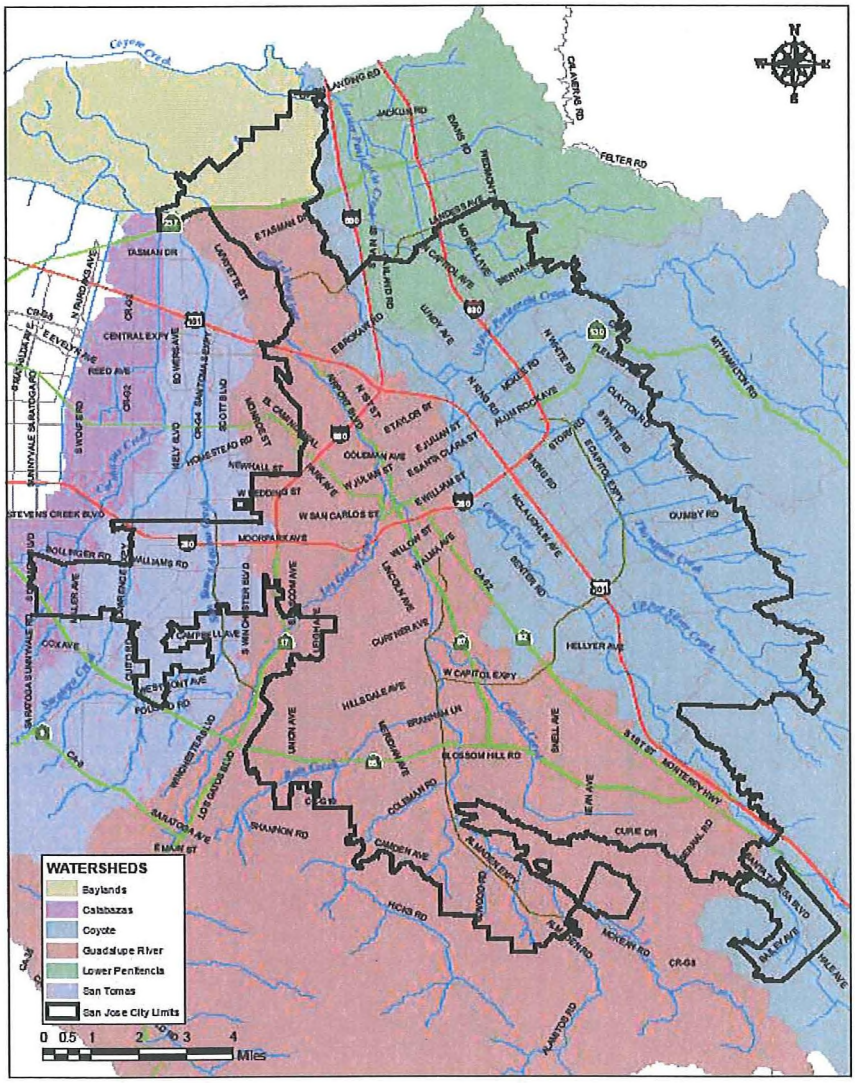
The City's storm sewer network is a storm water collection system that includes more than 1,150 miles of storm sewer pipelines, 29,900 storm drain inlets, 1,500 storm outfalls, and over 4,500 miles of curb and gutter. Various channels, culverts, ditches, detention and debris basins make up the remainder of the system. The storm sewer system is designed to convey storm water away from developed areas to local creeks and rivers, and ultimately, to San Francisco Bay. More than 80% of the City's storm drainage system was constructed between 1950 and 1979.

Levees separate North San José from Coyote Creek and the Guadalupe River. These levees enable water levels in both waterways to rise to elevations higher than adjacent lands in North San José. In those instances, pump stations are needed to discharge storm runoff into the waterways. In the absence of pump stations, internal flooding would likely occur in various portions of North San José. The City owns and operates 28 storm pump stations with various capacities. The larger pump stations drain areas located north of Highway 101 into the Guadalupe River and have been rehabilitated within the past 10 years or are scheduled to be in the near future. The smaller pump stations typically drain street underpasses. The construction dates of the smaller pumps range from 1928 to 1975, the majority of which are over 40 years of age and at or near the end of their reliable service life.

Since the mid 1980s, the City's design standard requires that storm sewer systems be designed to convey a 10-year storm event (a storm large enough to have a 10% chance of occurring in any year). The 10-year event is widely recognized as a reasonable standard and is employed by countless jurisdictions nation-wide. However, over 93% of the City

is designed to the previous standard, which was to provide capacity for a 3-year storm event. In many areas that have been annexed to the City, the capacity is even less than a 3-year event. While all new developments are required to design their on-site storm system to accommodate a 10-year event, they are not required to address deficiencies of the downstream system to which they connect.

The Department of Public Works manages the Storm Sewer Capital Improvement Program. Public Works also reviews and inspects storm sewer improvements performed by private developers and other public agencies. The Storm Sewer CIP prioritizes design and construction of improvements that maximize the efficiency of the existing storm sewer system rehabilitates older deteriorated sewers and pump stations to extend their useful life. Most recently the Section has undertaken master planning of the City's storm sewer system to meet the future demands for regulatory compliance and conveyance.



Citywide Watershed Map

II. PROGRAM ACTIVITY

Storm Sewer Improvement Projects

Total FY11-12 Expenditures - $7.0 M

A portion of the Storm Section's resources are allocated to the Storm Capital Improvement Program (CIP) for resolution of localized drainage problems, primarily in residential neighborhoods, neighborhood business districts and school zones. These projects typically address localized ponding and neighborhood drainage issues that can be corrected by extending or enhancing the existing storm sewer system.

Improvement projects for fiscal year 2011-2012 include the following:

Charcot-Zanker Storm Sewer Improvement – located along Zanker Road between Brokaw Road and Charcot Avenue. This project was designed to connect two separate drainage shed areas, alleviating roadway flooding at Zanker and Brokaw Roads, by installing 400 linear feet of 15-in corrugated High Density Polyethylene storm pipe. Construction cost: $112,000.

El Dorado and Gold Street Improvement - Design of a new storm drain system in Alviso are along El Dorado Street between Elizabeth and Moffat Streets and along Gold Street between Catherine and Elizabeth Streets. Improvements include new mains, catch basins, sidewalk, curb and gutter. Project is currently in construction and is expected to be complete by January 2013. Construction cost: $1,118,000.

Citywide Storm Sewer Inlet and Lateral Replacement Improvement –Analysis and design of 37 locations throughout the City which require upsized inlets and/or laterals. Construction will start and be completed in the 2nd half of FY12-13. Estimated Construction cost: $875,000.

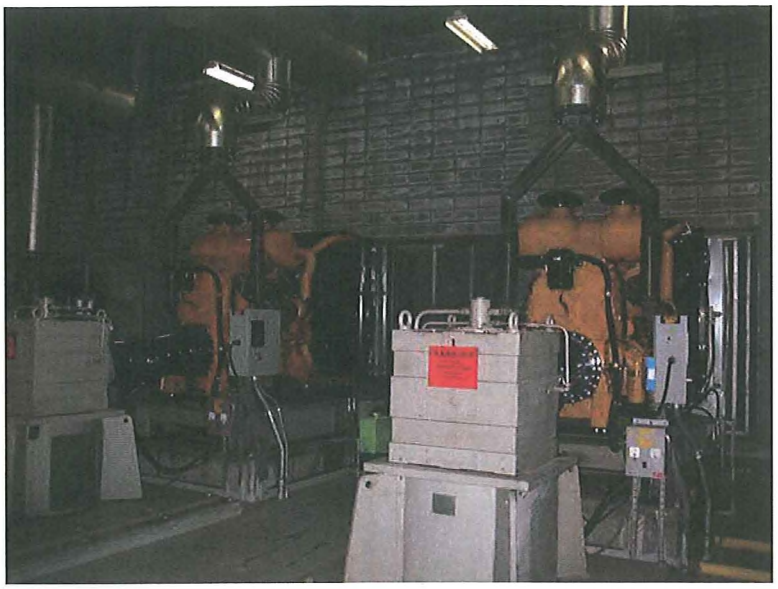
Gateway East Storm Sewer Improvement - Design of a new storm drain system along Whitton Avenue between 33rd and 34th Streets. Improvements include a new main, curb, gutter and sidewalk. Construction will start and be completed in the 2nd half of FY12-13. Estimated Construction cost: $265,000.

Rehabilitation Projects

Public Works and the Department of Transportation prioritized pump stations in need of replacement or rehabilitation. Rehabilitation projects for FY 2011-2012 include the following:

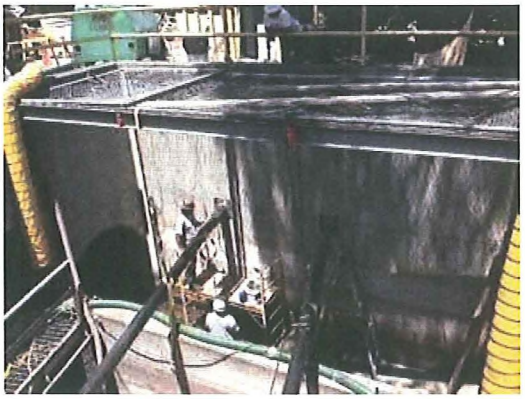
Oakmead Pump Station, Phase 2 & 3 – Completed construction of the 2nd phase of the pump station rehabilitation including replacement of the third and fourth of six diesel engines and controls. Construction Cost: $789,000

Phase 3 - Replacement of the fifth and sixth engines and right angle drives is scheduled to be by the end of October 2012. Construction Cost: $654,000



River Oaks Pump Station – Construction is in progress for replacement of the wet well, pumps and control panel. The project is under construction and is expected to be complete in October 2012. Construction cost: $808,000.

Gateway Pump Station – Design of pump station rehabilitation including replacement of pumps and controls. Construction will start and be completed in the 2nd half of FY12-13. Construction cost $532,000.



Non-Construction Activities

Non-construction activities for the Storm Section include Preliminary Engineering, Program Management, GIS, Master Planning, Permit Review and Inspection for Outside Agencies, Public Art, and Connection Fee Administration.

III. MAJOR AREAS OF FOCUS

System Management and Planning

a. Master Planning for Conveyance Capacity – The City is working to develop a citywide Storm Sewer Master Plan as a tool to assist with storm sewer capacity management. The Master Plan will use a 1D and 2D hydrodynamic model to systematically incorporate land use planning information, rainfall and flow data, hydrologic parameters, and design criteria to simulate flow and storm system performance in the watershed.

Master Planning for Water Quality Improvements – The Storm Sewer Master Plan will also develop a strategy for achieving the goal of improving water quality throughout the drainage areas through retention, filtration, infiltrating, storing, evapotranspiration, and/or biotreating stormwater in order to decrease water quality impacts to creeks, rivers and the Bay.

The City continued the development of its city-wide Storm Sewer Master Plan in FY 2011-2012. The City awarded a $500,000 Master Agreement to Schaaf & Wheeler Consulting Civil Engineer (Schaaf & Wheeler) in June 2011 and started negotiation with the consultant to develop the master plan for the North San José Area using computer software.

The Service Order for North San José Area modeling was issued in October 2011. The consultant has since developed the existing system 1D and 2D models, trained staff in catchment delineation, and conducted a workshop on the existing system modeling and results.

During the last quarter of the fiscal year, the Sanitary Sewer Master Plan Group upgraded the existing InfoWorks CS to InfoWorks ICM (Integrated Catchment Modeling) model software. InfoWorks ICM integrates sanitary and storm system modeling modules in the same license. The upgrade of InfoWorks ICM provides four software licenses to the Storm Master Plan Group for use in the development of the citywide storm system model. In July 2012, all Storm Master Plan staff were trained on InfoWorks ICM and prepared to start building the hydraulic model of the storm drain system.

To develop in-house experience in storm system hydraulic and hydrologic modeling, the City is planning to procure consultant services to develop models of some of the watershed areas, provide guidance and training to City staff to develop models of remaining watershed areas, and prepare master planning documents.

Flow monitoring is also needed to collect real-time flow data for the calibration of the model being developed. Due to the large amount of data that must be collected to build the model, manhole and flow line surveying will be required to develop a model using a consistent datum. The City plans to use NAVD88 for the model development.

In order to develop the citywide storm system master plan, approximately $4,000,000 of additional funding over the next five years will be required for master planning, flow monitoring, survey and field investigations and in-house and/or consultant services. If additional funding is not allocated, staff will reprioritize and shift funding currently allocated to capital improvements in order to the master plan program.

b. Base Map Accuracy - The Storm GIS Data Improvement Project (SGDIP) consisted of 5 Phases – Data Modeling, Spatial and Attribute Adjustment, Migration to Oracle and Training, Backlog and Additional Inlet Capture, and Warranty and Acceptance. Phases 1 to 5 were completed by January 1st, 2012, and the data has been in full production ever since. An additional non-data related task was added to create an interactive web map application and this project is still underway, slated for completion by Jan 1, 2013.

   By the end of December 2011, the storm manholes, outfalls, pump stations, and other above ground features were adjusted to 2 feet accuracy, where visible on aerial photography and Google Street View (mostly in the Public Right of Way, and the storm sewers adjusted to connect to this infrastructure. Where these features are not visible due to concealment by tree canopies, automobiles, etc., accuracy can be off tens of feet; and where assets are located on private parcels, the accuracy can be off 100 feet or more.

   Staff has been correcting and inputting data for the last eight months and has input 6 tracts, 30 improvement, 1 capital, and 7 private plans. Staff has also corrected 86 discrepancies. Currently, there are 12 tracts, 29 private, 135 improvement, and 12 capital improvement plans in the backlog awaiting input into the system. In addition, there are 835 discrepancies in the backlog such as areas of modified infrastructure adjacent to freeways and around the borders of the City. Also included in the discrepancies are areas of missing infrastructure needing research and addition to the system

c. Support Economic Development - In an effort to support economic development under the North San José Area Development Policy, the City issued a service order in October 2011 under the Master Agreement with Schaaf & Wheeler to develop the North San José Storm Drain Evaluation and Master Plan. The project limit is the area included in the Development Policy. The model and the master plan document developed under this service order will provide better understanding of the storm system performance and the flood impacts under the 10 and 100-year design storm conditions, and identify deficiencies at existing and future (i.e. General Plan 2040) land use scenarios, and recommend storm drain improvement projects to mitigate deficiencies.

d. Coordination with SCVWD - Approximately 20% (or 250) of the storm outfalls are in need of rehabilitation in order to maximize operational capacity and minimize maintenance requirements. The range of improvements needed include flap gate repair, vegetation removal, sediment removal, riprap repair, bank erosion repair, channel dredging, and/or outfall structure and pipe reconstruction. The City does not have a comprehensive outfall program to address the widespread planning and

funding needs, environmental and regulatory permitting requirements, and mitigation and monitoring plans that would be necessary to implement a robust and long-term program. Currently, repairs to existing outfalls are considered on a case-by-case basis; the City has been collaborating with the Water District to implement select projects (usually small in scope and cost) through the District's Stream Maintenance Program or Five-Year Capital Improvement Program where possible. This approach will continue to be used to leverage resources until such a time that funding is available to conduct a Storm Sewer Master Plan for the City. The master plan will include a recommended approach and estimated cost for rehabilitating the City's extensive inventory of storm drain outfalls.

In FY11-12 the Storm Section completed coordination of an agreement with the Santa Clara Valley Water District that included the reconstruction of the City outfall and bank erosion repair along Thompson Creek near Cadwallader Bridge, and bank erosion repair and sediment removal to unearth the existing City outfall along Guadalupe River at Auto Mall Parkway. Construction of the improvements along Thompson Creek were completed in October 2011. Completion of the construction along Guadalupe River is scheduled for October 2012.

Thompson Creek at Cadwallader Bridge – Outfall and Bank Erosion Repair

e. Neighborhood/Special Corridors – The forthcoming citywide master planning effort is expected to yield the data necessary to plan and estimate Storm Capital Projects. Currently, most storm system improvement projects are identified and selected for implementation based on public complaints and City staff observation, as well as historical knowledge of chronic/re-occurring drainage problems. These improvement projects are funded by the Storm Sewer Capital Improvement

Program (CIP). Priority for funding of storm improvement projects through Neighborhood/Special Corridors funding is based on proximity to public gathering centers, such as schools, community centers, libraries, etc.

f. Rehabilitation of Pump Stations – As noted above, the City owns and operates 28 storm pump stations with various capacities and the average age of the City's 28 pump stations is over 36 years. Public Works continues coordination with the Department of Transportation to develop and implement a plan for prioritizing and rehabilitating the City's storm pump stations.

g. Improving Annexation Areas - In April 2006, the San José City Council launched a three to five year program in which the City of San José will annex the remaining "islands" (or "pockets") of less than 150 acres of unincorporated County of Santa Clara land. Unincorporated islands are governed by and receive services from the County even though they are completely or substantially surrounded by incorporated or City lands. Upon annexation, the land use and general governing responsibility will change from the County of Santa Clara to the City of San José. This change will enable residents in these County islands to receive urban services from the City rather than the County.

   The addition of these pockets to the City service area increases the demand on existing City storm infrastructure. The total impact of the annexation to the storm program is unknown, but County pockets typically lack underground storm sewer pipe and tend to experience various problems related to ponding. In addition, the lack of curbs and gutters does not address the current standards for protection from overland release (streets are designed to capture the effects of the 100-year storm or failure of the storm sewer system). The city-wide master planning effort is expected to identify any deficiencies or needs for improvements within the recently annexed County pockets.

Sustainability/Green Vision

Municipalities that operate separate storm sewer systems discharging into local streams and water bodies are required to have a National Pollutant Discharge Elimination System (NPDES) Stormwater Permit under the Federal Clean Water Act and State law. The San

Francisco Bay Regional Water Quality Control Board issues a joint stormwater permit to a collection of 15 agencies in Santa Clara County including San José whose land area drains to the Bay. The permit allows the City to discharge waters collected by its storm sewer system through more than 1,250 storm sewer outfalls to local creeks and streams. Under the NPDES stormwater permit, municipalities are required to manage the quality and quantity of storm water runoff to reduce pollutant loading and to minimize erosive impacts on receiving waters.

The City complies with the NPDES stormwater permit requirements by administering a comprehensive Stormwater Program, led by the Environmental Services Department. Other City Departments such as Public Works ensure adherence to permit requirements for private development and municipal projects through plan preparation, review and inspection. The Departments of Transportation, General Services, and Parks, Recreation and Neighborhood Services are responsible for operation and maintenance of City stormwater facilities.

The City's Stormwater Program is comprised of 15 program elements, including enforcement and inspection; outreach and education; municipal maintenance activities; controls on new development projects (private and public); and activities to address specific pollutants such as trash, mercury, and copper. Inclusion of the new and more stringent requirements for some program elements in the current MRP will have a significant effect on resources.

NPDES stormwater discharge permits are typically issued for a term of five years. The most recent Municipal Regional Permit (MRP) for the San Francisco Bay Region was adopted in October 2009. The adopted permit has amended the requirements of provision C.3 (New Development and Redevelopment) to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new and redevelopment projects through the implementation of low impact development (LID) techniques beginning in December 2011 for private development projects and December 2012 for public projects. The goal of LID is to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source.

a. Green Streets Pilot Project(s) - Provision C.3 of the current MRP includes a requirement for the development of ten Green Street Pilot Projects within the San Francisco Bay Region, with a minimum of two green street projects within Santa Clara County. The Storm Section is working closely with the Environmental Services Department and Department of Transportation to secure grant funding from the State Prop 84 Storm Water Grant Program for two projects including Martha Gardens Green Alleys and Park Avenue Green Street projects. Notification of recommendation for funding approval from the State is expected in October 2012.

   In coordination with Public Works, the Environmental Services Department also submitted a grant proposal to the State's Urban Greening for Sustainable Communities Program for the Ocala Avenue West Green Street Project. The project, located on Ocala Avenue between Daytona Drive and Capitol Expressway,

proposes the construction of a landscaped median island, construction of sidewalk along the south side of the street, and installation of rain gardens to provide stormwater treatment for both new and existing impervious surfaces. Although the project was initially considered for funding in May 2011, it was not approved for final funding due to the large size of the project relative to the other projects submitted from throughout the State. This project will be included in future grant proposals

b. Illicit Discharge Detection and Elimination – Provision C.5 of the current MRP provide permittees with the legal authority to prohibit and control illicit discharges and escalate stricter enforcement to achieve expedient compliance. The Storm Section is working with the Environmental Services Department and the Department of Transportation to identify illicit connections.

c. Trash Load Reduction – Provision C.10 of the current MRP requires that trash loads from separate storm sewer systems be reduced by 40% by 2014, 70% by 2017, and 100% by 2022. The Storm Section worked with the Environmental Services Department and the Department of Transportation to identify locations for installation of full trash capture devices that could cumulatively treat runoff from 30% of Retail/Wholesale Land that drains to the storm sewer system (approximately 895 acres).

   In FY11-12, two Large Trash Capture Device Installation Pilot Projects were designed and constructed by Public Works with funding from ESD. The two pilot projects installed large trash capture devices (hydrodynamic separator units) within the Coyote Creek watershed at Wool Creek Drive, east of Senter Road, with installation completed in July 2011, and at Bulldog Boulevard, west of 24th Street, with installation completed in August 2011. An additional seven units were designed for installation within both the Coyote Creek and Guadalupe River watersheds with scheduled installation in FY12-13. All nine units are expected to be fully operational by October 2012, cumulatively treating approximately 1,200 acres for full trash capture, exceeding the 895 acres required by the permit.

IV. PROGRAM FUNDING

Adopted FY 2011-2012 CIP Budget Revenue

Primary sources of funding include transfers from the Storm Sewer Operating Fund, the Storm Drainage Fee, interest earnings, and joint participation revenues. The Storm Sewer Operating Fund provides funding for capital improvement projects and the federally mandated Non-Point Discharge Elimination System requirements through Storm Sewer Service Charge fees.

Storm Drainage Fee (Fund 413 – $294,000) - The Storm Drainage Fee is charged for the privilege and benefit of land directly or indirectly discharging into the storm drainage system, and also for the benefits accruing to said land because of the existence of a city storm drainage system which collects and disposes of waters from other lands in the city. The fees collected may only be used for the construction, reconstruction and maintenance of the storm drainage system for the City of San José and for acquisition of land for such system. The fee is based on land use and acreage.

Storm Sewer Capital Fund (Fund 469 - $15,215,000) - Funds for capital improvement projects are transferred from the Storm Sewer Operating Fund (Fund 446). These funds are used for new or rehabilitated pump stations, new or replacement laterals, pipe, storm drain inlets, outfall rehabilitation, and projects that address water quality issues.

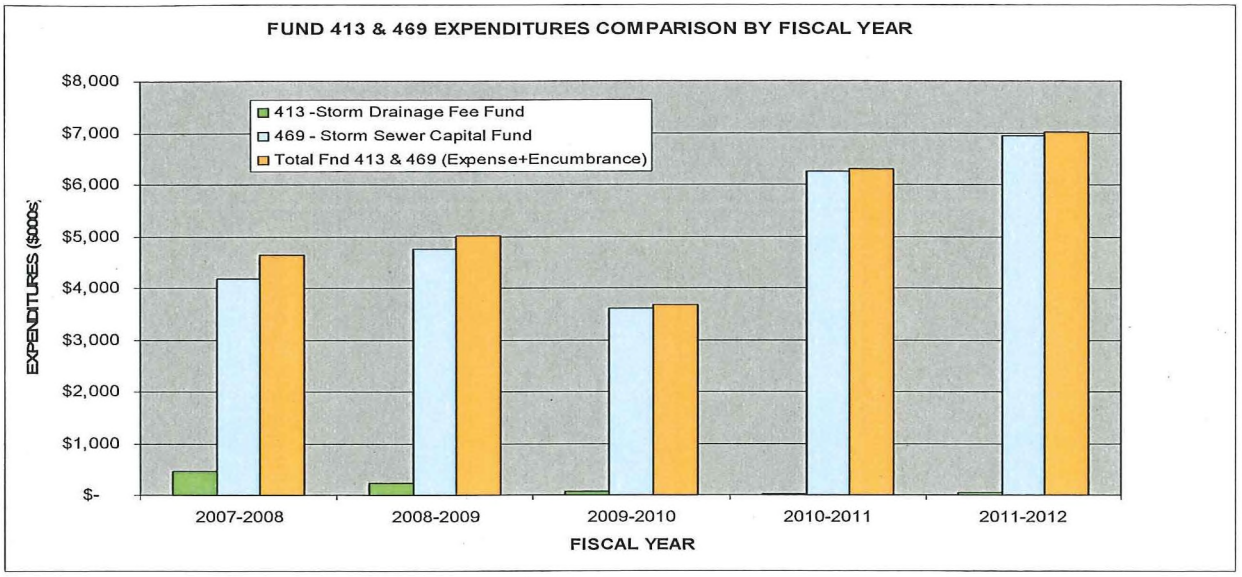
Joint Participation Revenues ($4,000) - This revenue comes from the City of Cupertino, when, in the late 1970s, City boundaries were redrawn and a portion of Cupertino's storm sewers system connects into San Jose's system before being conveyed downstream. This revenue covers maintenance and operations expenses for Cupertino's share of the system.

Total Adopted FY 2011-2012 CIP Revenue - $15.5M

Adopted FY 2011-2012 CIP Budget Expenditures

The Storm CIP Program has a $33.1 million, 5-year budget. This level of funding allows three to four medium neighborhood improvement projects to be completed each year. It is important to note that, besides the one time funding in the amount of $13M specifically for construction of the Charcot Pump Station in FY13-14, the current level of funding in the Storm CIP program addresses immediate needs for dealing with minor neighborhood drainage problems. It does not address long-term, system-wide needs stemming from significant development activities that have occurred over the past few decades and those planned for future years. The ongoing Master Planning effort will provide a working document that establishes city-wide long-term solutions for any deficiencies or lack of efficiency within the storm sewer system.

In FY11-12, the Storm Sewer Section of Public Works consisted of 10.5 full-time-equivalent (FTE) positions comprised of a Capital Improvement team, Master Planning team and one Program/Policy team led by a Senior Engineer.



V. CONCLUSION

The City's Storm Sewer System is a significant infrastructure asset that has taken more than a century to construct. The system provides effective drainage for the protection of life and property, and is increasingly becoming a mechanism for treating polluted runoff and protecting local creeks, rivers, and the San Francisco Bay. As with any long-term asset, the routine maintenance and rehabilitation will keep the system performing at optimum levels. Funding levels of the recent past have been adequate for addressing small, nuisance issues, but the investment required to rehabilitate older facilities and address chronic flooding issues is significant. The newly funded master planning effort will assess the condition and investment needs for the entire system and will develop the funding strategies to keep the system functioning efficiently.